

# HOSSFELD

# UNIVERSAL IRON BENDER

"WRENCHLESS TYPE" "HOSSFELD UNIVERSAL" Registered U.S. Patent Office



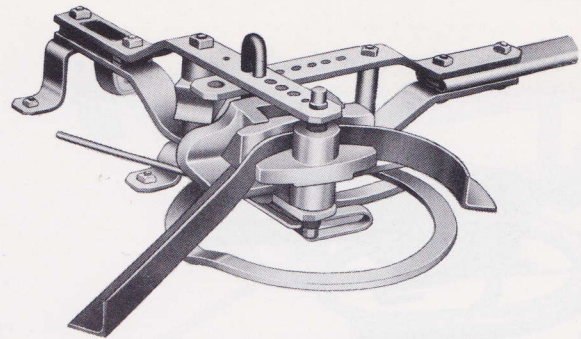
SAMPLES OF BAR BENDING



SAMPLE OF ANGLE IRON BENDING



SAMPLES OF PIPE BENDING



## ***BENDS* ROUNDS, PIPE, FLATS, TUBING SQUARES, CONDUIT, AND ANGLE IRON**

(Angle Iron Can Be Bent Either With Flange In or Flange Out, Flatstock Either Flatways or Edgeways, and Conduit Either Rigid or Thinwall Type.)

*The Hossfeld Universal Iron Bender* is not an experiment, but is accepted and widely used by metal working shops and factories throughout the world. Its users include, municipal, state and federal government institutions, vocational departments in colleges, universities and high schools, as well as manufacturing plants and metal working shops, for both maintenance and production work.

*Being Wrenchless*, it is always ready for use and can quickly and easily be set up for any type of bend. Also due to its wide range and adaptability, it actually takes the place of many other types of special bending machines.

*The Bender* is made in two sizes and the illustrations and descriptions, show the capacity and range of the large size, No. 2, which is most commonly used. It will do everything the No. 1 will and much more.

*The No. 2 Size* as furnished with standard equipment will bend Pipe, Flats, Round or Square Stock and Angle Iron up to capacities stated. The extra equipment as described, can be furnished at extra cost to meet particular requirements.

*The Parts* which take the strain are made of heat-treated steel, and the construction in general, makes the machine very strong and durable.

**FULLY GUARANTEED**

**INDISPENSABLE AS A BENCH VISE**

**We Welcome Your Inquiries Concerning Special Bending Problems**

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# HOSSFELD UNIVERSAL, PIPE BAR AND ANGLE IRON BENDER

*Following illustrations show some of the many different bends which can be made with the Standard Equipment.*

## Bending Pipe and Conduit

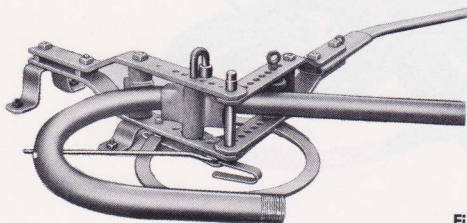


Figure 1

**Bends Cold**, all sizes of standard pipe and conduit up to 2" inside diameter. Makes a smooth even bend without flattening the pipe or splitting the seam. Bends to any degree or to a continuous coil as desired. Bends to a 10" radius on the 2" size, down to a 2" radius on the  $\frac{1}{4}$ " size. The pipe bending feature works on the principle of compound leverage, giving it a tremendous purchase without the use of gears or ratchets. Illustration shows a 2" standard gas pipe being bent to a return bend.

## Bending Angles, Offsets, Etc., of Heavy Cold Stock

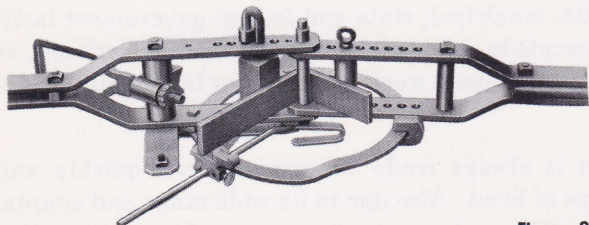


Figure 3

**Bends Angles**, Irregular Shapes, Offsets, etc. of  $1\frac{1}{4}$ " round or square stock or of  $4\frac{1}{2}$ " x  $\frac{1}{2}$ " flat stock, cold. For hot bending the capacity is about double. Gauges are provided for accurately locating the point of the bend and for gauging the degree of the angle desired. Illustration shows a piece of  $2\frac{1}{2}$ " x  $\frac{5}{8}$ " stock being bent to a right angle.

## Bending Sharp Square Bends on Wide Flat Stock

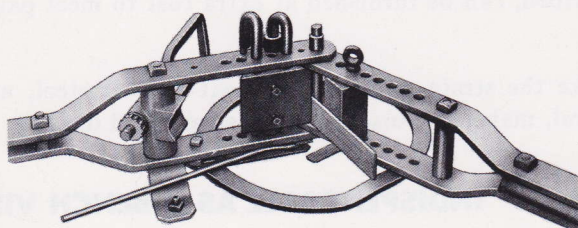


Figure 5

**Bends Sharp Bends** to a right angle or less on  $4\frac{1}{2}$ " x  $\frac{1}{4}$ " flat stock, cold. For hot bending the capacity is about double. This feature of the bender is used where a real sharp corner bend is required. It can be used for making sharp offsets, stake pockets, sharp cornered "U" clips, etc. Illustration shows a piece of flat stock inserted ready for bending.

## Bending Eye Bolts, "S" Shapes, Etc.

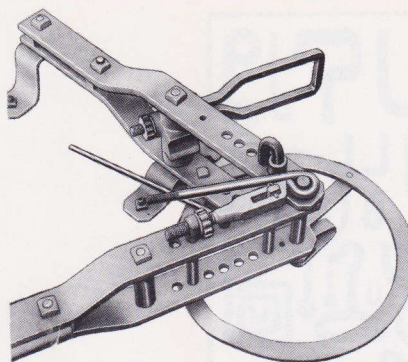


Figure 2

**Eye Bolt Bending Feature** forms neat smooth Eye Bolts, "S" shapes, "U" shapes, etc., of  $\frac{5}{8}$ " round or square stock, cold. For hot bending the capacity is about double. By providing a wider Bending Dog and longer Forming Pin, flat stock up to  $1\frac{1}{2}$ " in width can be handled. The standard equipment includes forming pins for bending Eyes and "U"s of  $\frac{1}{2}$ ",  $\frac{5}{8}$ ",  $\frac{3}{4}$ ",  $\frac{7}{8}$ " and 1" inside opening. Illustration shows the first operation being made on an eye bolt of  $\frac{5}{8}$ " stock. To center the eye it is lifted from the pin, turned over, and then given the back bend.

## Bending Heavy Cold "U" Shapes

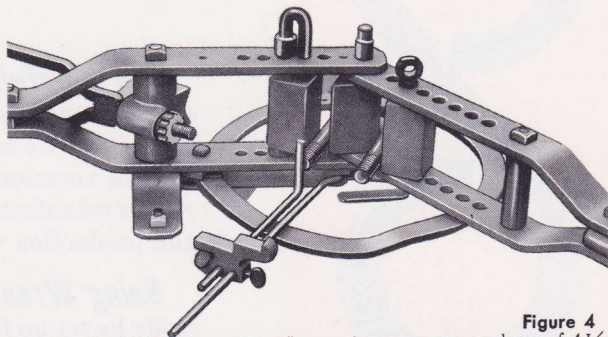


Figure 4

**Bends "U" Shapes** of  $1\frac{1}{4}$ " round or square stock or of  $4\frac{1}{2}$ " x  $\frac{1}{2}$ " flat stock, cold. For hot bending the capacity is about double. Self locking Cam Shaped Dies for bending "U"s of  $1\frac{1}{4}$ ", 2" and  $2\frac{1}{4}$ " inside spread are furnished with regular equipment. These Dies can be built up to any larger size desired by simply bending a piece of flat stock around them. With these Cam Shaped Dies, clevises can be bent so that both ends will come out exactly even. Illustration shows a "U" bolt being bent.

## Bending Rings and Coils

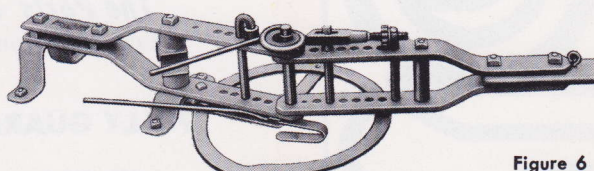


Figure 6

**Rings and Continuous Coils** of any desired diameter can be formed as shown in the illustration. A forming ring is first made of a piece of square stock, and any number of rings of an exact size can then be shaped over this in the manner shown. The stock is fed along a distance of 1" or 2" after each pull of the hand lever. Most users make their own forming rings but we can furnish them on request.



# SIZE No. 2 — "WRENCHLESS TYPE" WITH STANDARD EQUIPMENT

## STANDARD EQUIPMENT BENDS, Continued

### Bending Sharp Bends or "U" Bolts, Etc.

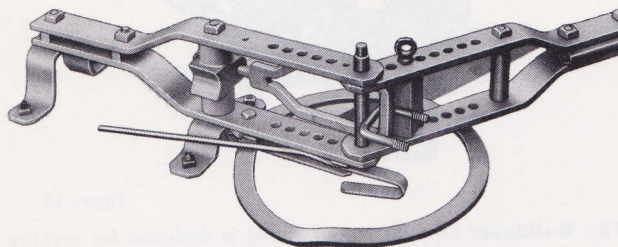


Figure 7

**Sharp Cornered "U" Bolts** are bent on the same feature of the bender as shown for bending ornamental iron. This feature is also used for bending short close hooks on the ends of rods. It will bend a hook with sharp inside corners and having an inside spread of as close as  $\frac{3}{8}$ ". It has a capacity of  $\frac{3}{8}$ " round or square stock or  $3" \times \frac{1}{4}"$  flat stock, cold. For hot bending the capacity is about double. Illustration shows a "U" bolt being bent.

### Bending Ornamental Iron Work

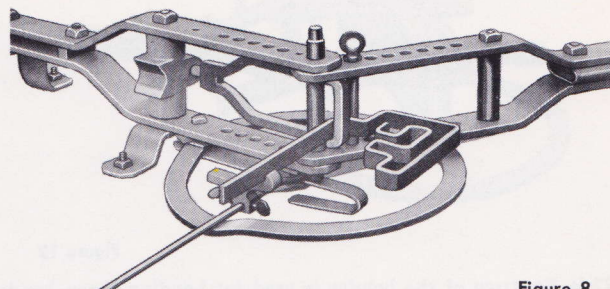


Figure 8

**This Feature** of the bender is used in making Ornamental Iron Shapes and various other intricate bends. Bends a sharp corner and will handle work as small as the making of a staple of a small nail. This feature has a capacity of  $3" \times \frac{1}{4}"$  flat stock or  $\frac{3}{8}"$  round or square stock, cold. Illustration shows an ornamental iron shape being formed.

### Bending Angle Iron With Flange Inward

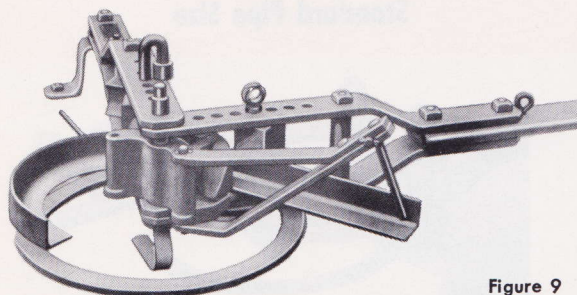


Figure 9

**Attachments for Bending Angle Iron** with either the Flange Inward or with the Flange Outward are features of the Hossfeld Bender and consists in the main of a Master Die with which forming blocks of various radii can be used. These blocks work on a wedge principle so that when the bending pressure is applied, the horizontal flange of the stock is held in a viselike grip. This prevents any crimping or twisting, and when the pressure is released the stock is always free to be fed along, thus the bending is as easy and rapid as the bending of plain bar stock.

The Inbend attachment requires only one extra block for each different desired radius. The Outbend attachment requires two extra blocks (an outside block and an inside block) for each different radius desired. The inside block however, has two dif-

### Bending Angle Iron With Flange Outward

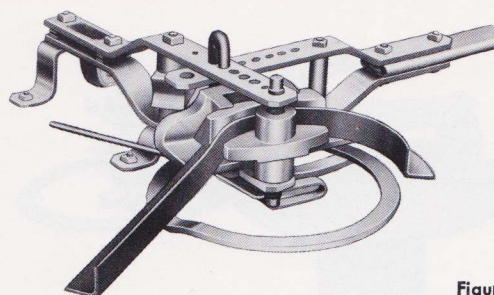


Figure 10

ferent radii so that a set of three blocks, two outside blocks and one inside block will bend two different radii.

The attachment for bending with the Flange Inward is regularly furnished with Forming Blocks for bending radii of 5", 6", 7", 9", 12", 15", 18", 24", 30", 36". Blocks of any other radius from 4" up to 10 ft. or larger can be furnished if desired.

The attachment for bending with the Flange Outward is regularly furnished with Forming Blocks for bending radii of 5", 6", 7", 9", 12", 15", 18", 24", 30", 36". Blocks of any other radius from 3" up to 10 ft. or more can be furnished if desired.

Both Inbend and Outbend attachments have a capacity of  $2" \times 2" \times \frac{3}{16}"$  stock, cold, or  $2" \times 2" \times \frac{3}{8}"$  stock, hot.

### Bending Flat Stock Edgeways

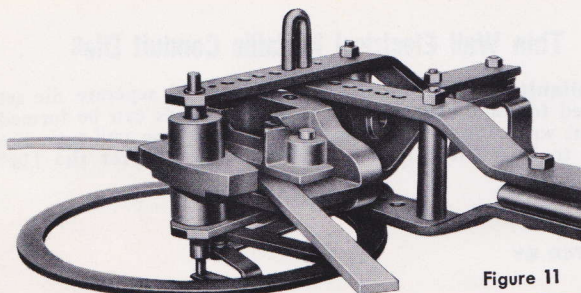


Figure 11

**Bend edgeways** as illustrated at left with edgebend die used with outbend master die, wrist pin and inner radius block. Size of inner radius block determines radius of bend. Capacity  $\frac{3}{8}" \times 1\frac{1}{4}"$  cold. Bends flats edgeways from 4" inside radius and up to any degree including 360° circles. Same set up used for bending hand rail capping edgeways.



# HOSSELD UNIVERSAL, PIPE BAR AND ANGLE IRON BENDER

## "WRENCHLESS TYPE"

### STANDARD EQUIPMENT BENDS, Continued

#### Bending Notched Angle Iron

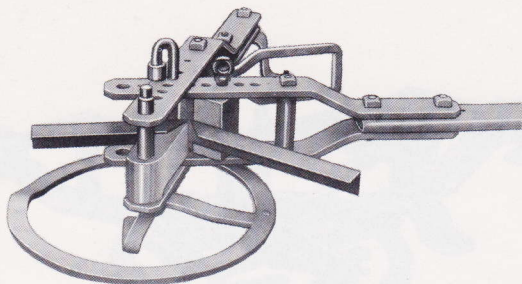


Figure 12

This Feature of the bender is used for bending sharp bends on angle iron after the point of bend has been notched. This feature has a capacity of  $2\frac{1}{2}$ " x  $2\frac{1}{2}$ " x  $\frac{5}{16}$ " angle iron stock, cold. This special Die will also form sharp "V" bends on flat stock.

#### Bending Round or Square Eyes on Flat Stock

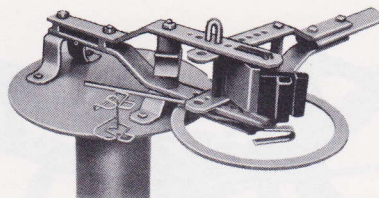


Figure 13

The Bulldozer Die illustrated above is designed for making round or square bends on stock up to  $\frac{3}{8}$ " thick and  $4\frac{1}{2}$ " wide. The advantage of this die for sharp square bends, is the stock can be easily removed from the machine by pulling a pin; thus round or square eyes can be made. Also, the die is ideal for making intricate bends on wire up to  $\frac{1}{4}$ " diameter. The illustration shows a piece of flat stock upon which a round and a square eye has been made, also a wire shape, which was bent on the die.

## EXTRA EQUIPMENT

#### Equalizer Type Pipe and O. D. Tube Dies

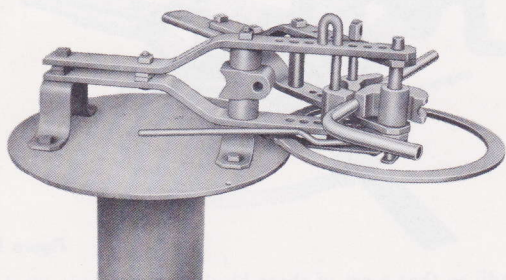


Figure 14

For Cold Bending 16 ga. or heavier tubing up to 180° without the use of mandrel or filler. Tubing is supported intirely from the outside and good short radius bends can be accomplished without wrinkling or flattening. O. D. Tube dies are available in all sizes from  $\frac{3}{8}$ " O. D. through 2" O. D.: Pipe dies in all sizes from  $\frac{1}{4}$ " through 2" pipe size. Separate die set required for each different size and radius.

#### Scroll Bending Dies

For Forming Uniform single turn scrolls  $2\frac{1}{2}$ ", 4" and 5" Diameter, and one and one half turn scrolls  $6\frac{1}{2}$ " and 8" Diameter. Hand Operated, form complete scrolls in seconds.

#### Handrail Bending Attachment

For Cold Bending hand rail capping up to  $\frac{1}{2}$ " x  $1\frac{3}{4}$ " size-into Lambs tongues, Volutes, and Edgebends. Also for edge, bending flat stock. Extra spacer blocks available for different thicknesses and widths.

#### 90° Bends on Rigid Conduit Standard Pipe Size

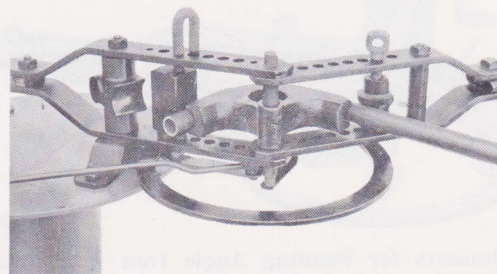


Figure 15

This Special Type of Pipe and Conduit bending die is used mainly by Electricians for quantity production work on 90 degree Ells. This type of die does not operate on the compound leverage principle as do the general purpose pipe dies furnished with the regular equipment. The limit capacity on this type of die is the  $1\frac{1}{2}$ " inside diameter standard pipe or conduit and the bend is made accurate and complete with one pull of the hand lever. The full set of dies includes,  $1\frac{1}{4}$ " x 6" radius, 1" x 5" radius,  $\frac{3}{4}$ " x 4" radius,  $\frac{1}{2}$ " x 3" radius and  $\frac{1}{2}$ " x  $1\frac{3}{4}$ " radius. They may be purchased singly if desired.

#### Thin Wall Electrical Metallic Conduit Dies

Available in all Sizes from  $\frac{1}{2}$ " through 2", separate die set required for each size. Standard Radius bends can be formed without wrinkling or flattening. 90° and 180° one pull type dies for up to  $1\frac{1}{4}$ " TWC, and Feed Along type dies for the  $1\frac{1}{4}$ " and 2" TWC.

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